

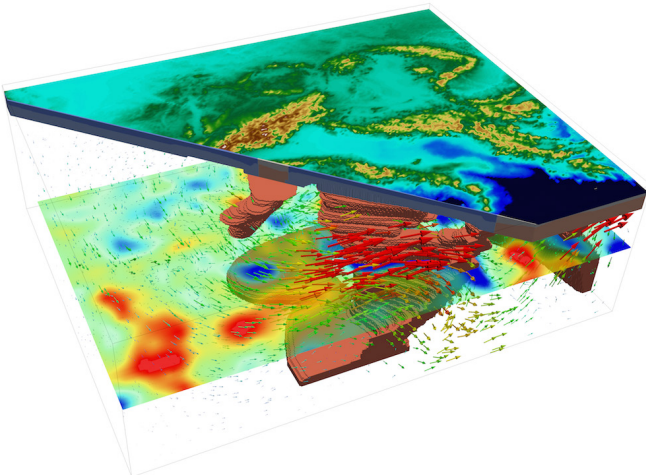
Geowissenschaftliches Kolloquium

Constraining the physics of mountain-belt formation

Donnerstag, 6. November 2014 - 16.15 Uhr

Boris Klaus
(Johannes Gutenberg-Universität Mainz)

Understanding mountain belt formation requires linking geophysical information with geological data. One way to do this is by using computer models of lithospheric deformation.



Here, recent results of 3D models of the Alps will be discussed, which show that both the geometry and the effective viscosity of the sub-Alpine slabs have a large influence on mantle flow patterns. In the second part of the talk, I will focus on how such models can be linked to available (geophysical) data in an automatic manner. This geodynamic inverse modelling approach allows constraining the (nonlinear) rheological parameters of the lithosphere together with their uncertainty bounds.

Prof. Dr. Boris Kaus studied at RWTH Aachen and ETH Zurich, where he obtained his PhD in geology in 2005 on using computer models to understand geodynamic processes. After two years as postdoc in Los Angeles, he returned to the geophysics department of ETH, initially as a senior scientist and since 2010 as assistant professor of computational geodynamics. Since 2011 he works as professor of geophysics at the university of Mainz (since 2014 as full professor). His research interests are on better understanding the physics of a large range of geological process by using novel computer algorithms and mathematical models. For his work he received a number of awards, including an ERC Starting Grant (2010), the Arne Richter award of the EGU (2011) and the Swiss Paul Niggli award (2012).



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